AMENDMENTS TO THE SPECIFICATION

Page 1, after the subtitle, CROSS REFERENCE TO RELATED APPLICATIONS, please replace the paragraph with the following:

The present application is a divisional application of United States Patent Application No. 09/374,988, filed on August 16, 1999 (now U.S. Patent No. 6,630,701, issued on October 7, 2003), the disclosure of which is herewith incorporated by reference in its entirety.

Page 18, please replace the paragraph beginning at line 8 with the following:

The buried channel 150 is doped to a second conductivity type, which for exemplary purposes will be considered to be n-type. The dopant concentration of the buried channel 150 may vary but should be greater than the dopant concentration of p-well 120 and less than the dopant concentration of the doped regions 126, 130 and 134. Preferably, the buried channel 150 are lightly n-doped with arsenic, antimony or phosphorous at a dopant concentration of from about ~~$1x10^{11}$ ions/cm^2 to about $1x10^{13}$ ions/cm^2~~ $1x10^{11}$ ions/cm^3 to about $1x10^{13}$ ions/cm^3.

Page 20, please replace the paragraph beginning at line 6 with the following:

Reference is now made to Fig. 8. Doped regions 126, 130 and 134 are then formed in p-well 120. Any suitable doping process may be used, such as ion implantation. A resist and mask (not shown) are used to shield areas of p-well 120 that are not to be doped. Three doped regions are formed in this step: the first doped region 126, which serves to electrically connect the photogate transistor 100 to the transfer gate 128; the second doped region which is floating diffusion region 130 (which connects to the source follower transistor 136 by contact 144 as shown in Fig. 5); and the third doped region which is a drain region 134. The doped regions 126, 130, 134 are doped to a second conductivity type, which for exemplary purposes will be considered to be n-type. The

dopant concentration of the doped regions 126, 130, 134 may each be different. Preferably, the doped regions 126, 130 and 134 are heavily n-doped with arsenic, antimony of phosphorous at a dopant concentration of from about ~~$1x10^{14}$ ions/cm^2 to about $5x10^{16}$ ions/cm^2~~ $1x10^{14}$ ions/cm^3 to about $5x10^{16}$ ions/cm^3. There may be other dopant implantations applied to the wafer at this stage of processing such as n-well and p-well implants or transistor voltage adjusting implants. For simplicity, these other implants are not shown in the figure.

Page 22, please replace the paragraph beginning at line 1 with the following:

Referring now to Fig. 9, a substrate 216, which may be any of the types of substrates described above, is doped to form well 220 of a first conductivity type, which for exemplary purposes will be described as p-type, that is, well 220 is a p-well in this example. A buried channel 250 is formed in p-well 220. Any suitable doping process may be used, such as ion implantation. A resist and mask (not shown) are used to shield areas of p-well 220 that are not to be doped. Three buried channel regions 250 may be formed in this step: a region which will reside under the transfer gate and a region which will reside under the reset gate and a region that will reside under the source follower gate 236. The buried channel 250 is doped to a second conductivity type, which for exemplary purposes will be considered to be n-type. The dopant concentration of the buried channel 250 may vary but should be greater than the dopant concentration of the doped layer 220 and less than the dopant concentration of the doped regions 231, 233 and 235. Preferably, the buried channel 250 are lightly n-doped with arsenic, antimony or phosphorous at a dopant concentration of from about ~~$1x10^{11}$ ions/cm^2 to about $1x10^{13}$ ions/cm^2~~ $1x10^{11}$ ions/cm^3 to about $1x10^{13}$ ions/cm^3.

Page 23, please replace the paragraph beginning at line 14 with the following:

Reference is now made to Fig. 11. Doped regions 231, 233 and 235 are then formed in p-well 220. Any suitable doping process may be used, such as ion implantation.

A resist and mask (not shown) are used to shield areas of p-well 220 that are not to be doped. The doped regions 231, 233, 235 are doped to a second conductivity type, which for exemplary purposes will be considered to be n-type. The dopant concentration of the doped regions 231, 233, 235 may vary but should be greater than the dopant concentration of the doped layer 220. Preferably, the doped regions 233 and 235 are heavily n-doped with arsenic, antimony of phosphorous at a dopant concentration of from about ~~$1x10^{14}$ ions/cm^2 to about $5x10^{16}$ ions/cm^2~~ $1x10^{14}$ ions/cm^3 to about $5x10^{16}$ ions/cm^3. The doped region 231 may be lightly doped or heavily doped similar to regions 233, 235. There may be other dopant implantations applied to the wafer at this stage of processing such transistor voltage adjusting implants. For simplicity, these other implants are not shown in the figure.